

# Guitar Amplifier with Volume Control

## Abstract

A musician's amplifier that produces an overdriven amplifier sound at any desired listening level by including a frequency-sensitive circuit for controlling power delivered to an audio speaker to thus control volume output of the amplifier. The circuit comprises a ladder control network including a series resistor coupled to the speaker and a continuously tapped transformer coil. The coil has infinite multiple taps selectively coupled to the speaker via a variable controller for setting unlimited relative volume levels. The circuit maintains the input impedance seen by the driving source within a range close to a predetermined impedance comparable to a conventional speaker impedance. It is interposed between the output of the power amplifier and the loudspeaker and also maintains a constant proportional quality of high frequencies in the amplified signal at any volume level. The pre-amplifier section and the power amplifier section can be overdriven to taste and the musician is able to accurately produce both overdriven and undistorted amplifier tones at many different listening levels.